Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						1	3	8	0	/	4	H	Signature	

Paper Reference(s)

1380/4H

O Level

Mathematics (Linear) – 1380

Paper 4 (Calculator)

Trigonometry

Past Paper Questions

Arranged by Topic

Examiner's use only

Team Leader's use only

Materials required for examination

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Items included with question papers

Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
You must NOT write on the formulae page.
Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 26 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

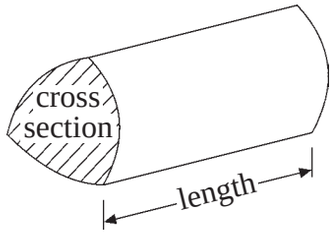
Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

GCSE Mathematics (Linear) 1380

Formulae: Higher Tier

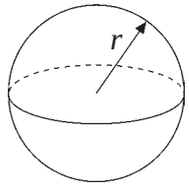
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



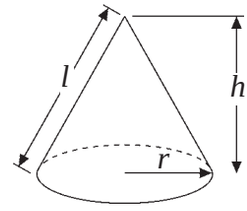
Volume of sphere $= \frac{4}{3}\pi r^3$

Surface area of sphere $= 4\pi r^2$

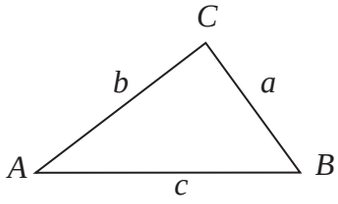


Volume of cone $= \frac{1}{3}\pi r^2 h$

Curved surface area of cone $= \pi r l$



In any triangle ABC



Sine Rule $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule $a^2 = b^2 + c^2 - 2bc\cos A$

Area of triangle $= \frac{1}{2}ab\sin C$

The Quadratic Equation

The solutions of $ax^2 + bx + c = 0$ where $a \neq 0$, are given by

$$x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$$

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1.

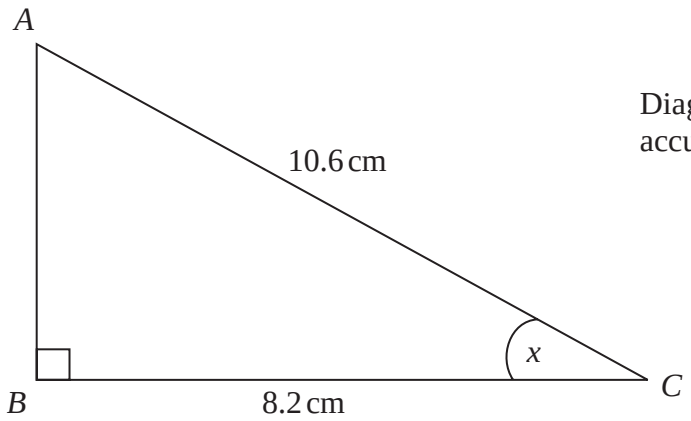


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AC = 10.6 cm.
BC = 8.2 cm.

Calculate the size of the angle marked *x*.
Give your answer correct to 3 significant figures.

..... °

Q1

(Total 3 marks)

Leave blank

2. Here is a right-angled triangle.

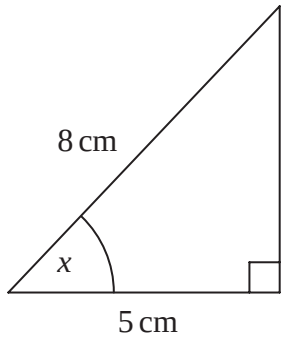


Diagram **NOT** accurately drawn

(a) Calculate the size of the angle marked x.
Give your answer correct to 1 decimal place.

x = ... °

(3)

Here is another right-angled triangle.

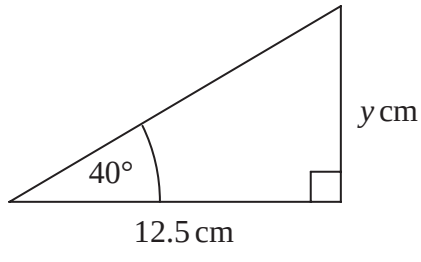


Diagram **NOT** accurately drawn

(b) Calculate the value of y.
Give your answer correct to 1 decimal place.

y = ...

(3)

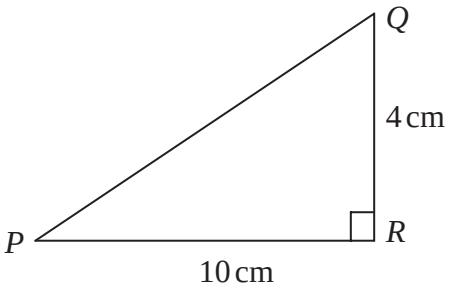
Q2

(Total 6 marks)

Leave blank

3.

Diagram **NOT** accurately drawn



PQR is a right-angled triangle.

QR = 4 cm
PR = 10 cm

Work out the size of angle *RPQ*.
Give your answer correct to 3 significant figures.

..... °

Q3

(Total 3 marks)

.

Leave blank

4.

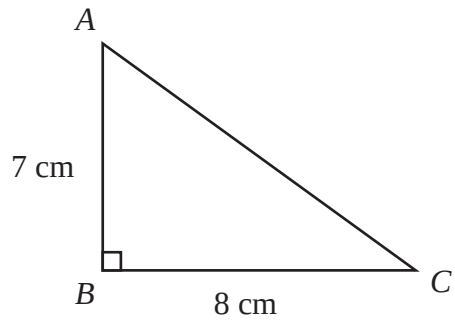


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AB = 7 cm,
BC = 8 cm.

(a) Work out the area of the triangle.

..... cm^2
(2)

(b) Work out the length of *AC*.
Give your answer correct to 2 decimal places.

..... cm
(3)

Leave blank

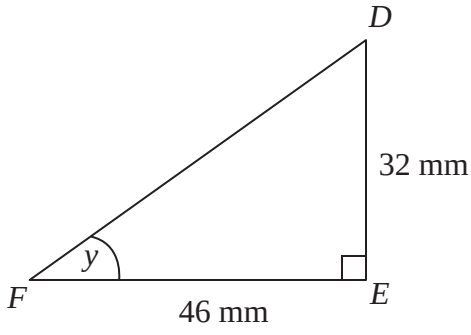


Diagram **NOT** accurately drawn

DEF is another right-angled triangle.
DE = 32 mm,
FE = 46 mm.

(c) Calculate the size of angle *y*.
Give your answer correct to 1 decimal place.

.....°

(3)

Q4

(Total 8 marks)

5.

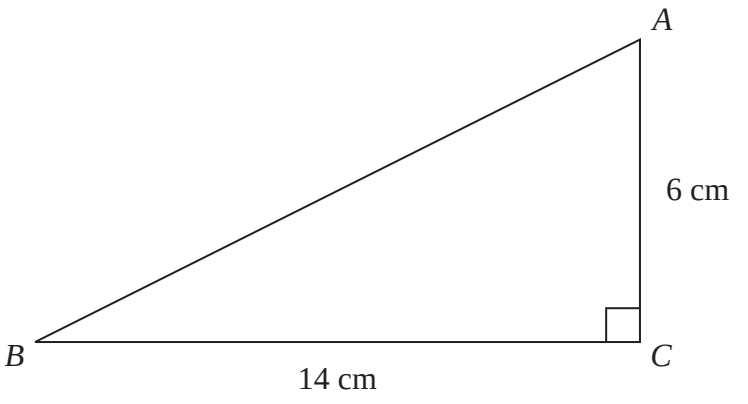


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AC = 6 cm.
BC = 14 cm.

(a) Work out the area of triangle *ABC*.

..... cm^2
(2)

(b) Calculate the length of *AB*.
Give your answer correct to 2 decimal places.

..... cm
(3)

Q5

(Total 5 marks)

Leave blank

6.

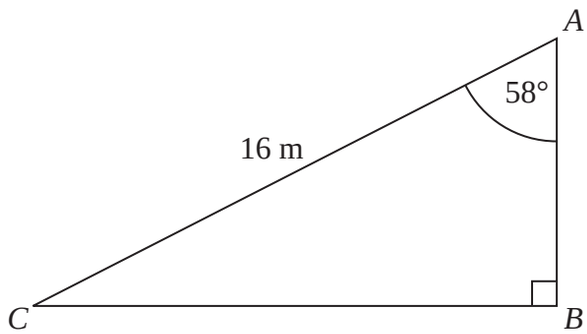


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AC = 16 m.
Angle *CAB* = 58°

Calculate the length of *AB*.
Give your answer correct to 3 significant figures.

..... m

(Total 3 marks)

Q6

Leave blank

7.

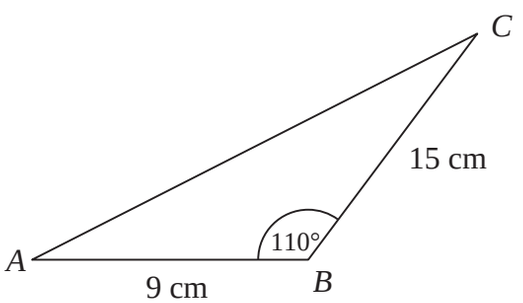


Diagram **NOT** accurately drawn

ABC is a triangle.
AB = 9 cm
BC = 15 cm
Angle *ABC* = 110°

Calculate the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm^2

(Total 3 marks)

Q7

Leave blank

8. Town *B* is 4.5 km due West of town *C*.
Town *A* is 2.4 km due North of town *B*.

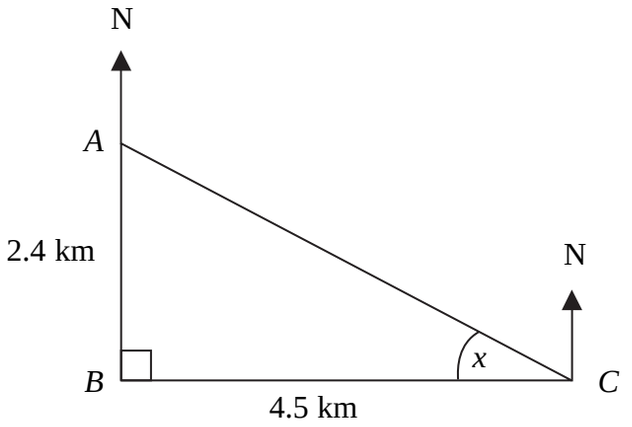


Diagram **NOT** accurately drawn

(a) Calculate the size of the angle marked *x*.
Give your answer correct to 3 significant figures.

x = ... °

(3)

(b) Find the bearing of town *C* from town *A*.
Give your answer correct to 3 significant figures.

..... °

(1)

Q8

(Total 4 marks)

Leave blank

9.

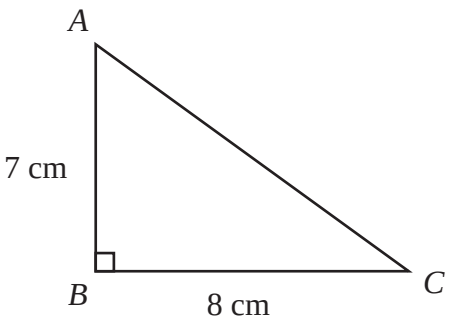


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AB = 7 cm,
BC = 8 cm.

(a) Work out the area of the triangle.

..... cm^2
(2)

(b) Work out the length of *AC*.
Give your answer correct to 2 decimal places.

..... cm
(3)

Leave blank

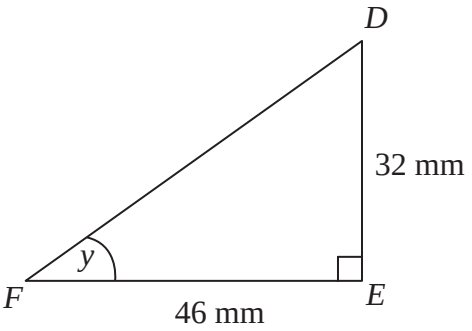


Diagram **NOT** accurately drawn

DEF is another right-angled triangle.
DE = 32 mm,
FE = 46 mm.

(c) Calculate the size of angle *y*.
Give your answer correct to 1 decimal place.

.....°

(3)

Q9

(Total 8 marks)

Leave blank

10.

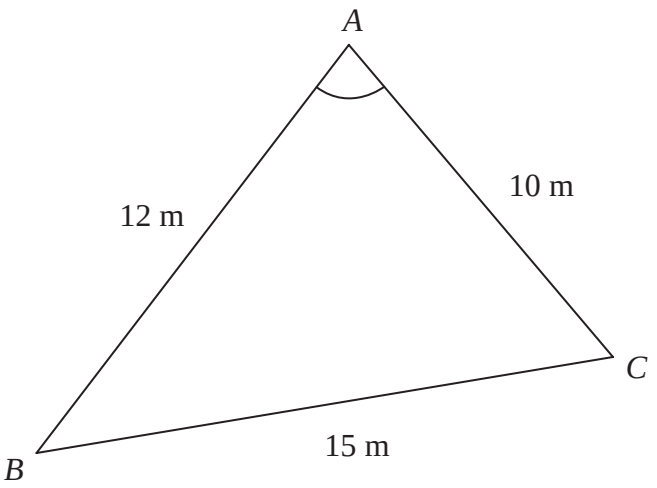


Diagram **NOT** accurately drawn

ABC is a triangle.
AB = 12 m.
AC = 10 m.
BC = 15 m.

Calculate the size of angle *BAC*.
Give your answer correct to one decimal place.

..... °

Q10

(Total 3 marks)

Leave blank

11.

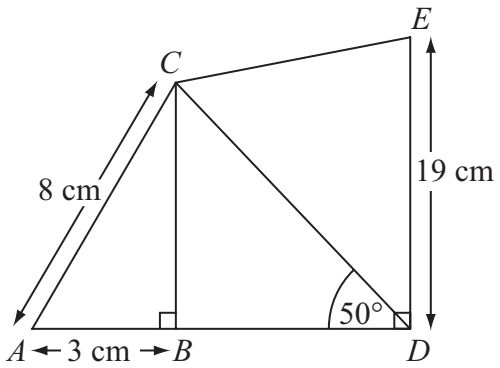


Diagram **NOT** accurately drawn

$AC = 8$ cm.
$AB = 3$ cm.
$DE = 19$ cm.
Angle ABC = angle CBD = angle $BDE = 90°$.
Angle $BDC = 50°$.

(a) Calculate the length of CD.
Give your answer correct to 3 significant figures.

..... cm
(4)

(b) Calculate the length of CE.
Give your answer correct to 3 significant figures.

..... cm
(3)

Q11

(Total 7 marks)